RTO West

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Synopsis of Main Points in Summary of Basic Information About RTO West

- RTO West is a proposed regional transmission organization ("RTO") that a coalition of utilities in the Northwest United States and British Columbia are working to develop. The coalition includes Avista Corporation, Bonneville Power Administration, British Columbia Hydro and Power Authority, Idaho Power Company, the Montana Power Company, Nevada Power Company, PacifiCorp, Portland General Electric Company, Puget Sound Energy, Inc., and Sierra Pacific Power Company.

- RTO West is being developed in response to the Federal Energy Regulatory Commission's Order 2000 and to address the changing needs of electrical energy providers and consumers.

- RTO West will be a non-profit corporation organized under state law that will be (1) independent of energy market participants and (2) designed to support participation of governmental entities, vertically integrated investor-owned utilities, and for-profit transmission-only entities (known as independent transmission companies or "ITCs"). RTO West is expected to include an ITC to be formed under the name "TransConnect LLC."

- RTO West will consolidate regional operations into a single control area and provide access to all of the transmission facilities it encompasses through a tariff filed with United States federal and British Columbia regulatory agencies. Loads served by the RTO West transmission system will pay for access under a "license plate" rate system.

- An RTO can increase efficiency of access and pricing within its boundaries and address a number of regional problems, including the need for operational and planning solutions to relieve growing strain on the system and for market signals to promote beneficial placement of new generation resources.

- Transmission rights for scheduling transactions on the RTO West system will be available in several variations: firm transmission rights ("FTRs"), recallable transmission rights ("RTRs"), and non-firm transmission rights ("NTRs"). FTRs will made available through three mechanisms: (1) allocations to parties who elect to convert their existing long-term contracts and load service obligations to RTO West service; (2) periodic public auctions of available capacity on the RTO West transmission system; and (3) private secondary market purchases.

- RTO West will have ultimate planning authority over the transmission facilities it controls. RTO West will maintain and make available to all interested parties comprehensive information about system usage, enhancements, and expansions.

- Many of the details of the RTO West proposal are still under development as of the date of this Summary of Basic Information About RTO West.

Summary of Basic Information About RTO West

Overview

"RTO West" is the name of the regional transmission organization (or "RTO") that a coalition of transmission owners is working to develop in the Pacific Northwest (within the United States and including the Canadian province of British Columbia). For purposes of this paper, the territory to be covered by RTO West is referred to as the "RTO West Geographical Area."

The coalition of transmission owners currently working to develop RTO West consists of: Avista Corporation, Bonneville Power Administration, British Columbia Hydro and Power Authority, Idaho Power Company, the Montana Power Company, Nevada Power Company, PacifiCorp, Portland General Electric Company, Puget Sound Energy, Inc., and Sierra Pacific Power Company. These transmission owners are often referred to as the "Filing Utilities." They have been engaged in a collaborative process with a broad range of stakeholders since March 2000 to develop the proposal for RTO West.

RTO West will be a nonprofit corporation formed under state law. RTO West will be designed to qualify for RTO status under Order 2000, which was issued by the Federal Energy Regulatory Commission ("FERC") on December 20, 1999. Among the features necessary to qualify as an RTO is independent governance. Independence means that the entity must not be subject to the control of entities that are in the business of buying and selling the electric energy that is delivered through the RTO's transmission system (often referred to as "market participants"). As noted below under "Formation of RTO West," FERC has already issued an order finding that RTO West's proposed governance structure satisfies the independence requirements established in Order 2000.

RTO West will also be designed to accommodate the participation of many different types of transmission owners, including state and federal governmental entities, vertically integrated investor-owned utilities, and companies that own solely transmission assets (known as "independent transmission companies" or "ITCs"). In fact, the Filing Utilities anticipate that some transmission owners will transfer their transmission assets to a newly formed ITC (a limited liability company to be named "TransConnect") before RTO West begins operations. The TransConnect companies' transmission facilities will then be included in RTO West through TransConnect's participation in RTO West. RTO West will not take ownership of any of the transmission assets it will operate.

A transmission owner brings its facilities under RTO West's operational and pricing umbrella by signing an agreement known as a Transmission Operating Agreement or "TOA." Once RTO West begins commercial operations, it will provide transmission service across all of the high-voltage facilities of all of the companies and agencies that sign TOAs. RTO West transmission service will be governed by a FERC-filed tariff (except in British Columbia, where service will be under a virtually identical tariff filed with the British Columbia Utilities Commission).

Problems in the RTO West Geographical Area That an RTO Can Solve

When FERC issued Order 2000, it hoped to remedy a broad range of problems and to confer numerous benefits throughout the country by encouraging the formation of RTOs. Not all of the conditions FERC sought to remedy necessarily exist in all parts of the country. In the RTO West Geographical Area, the most notable problems that can be addressed by RTO formation are: "rate pancaking" (explained below); transactional burdens associated with multi-system transfers; lagging investment in needed transmission infrastructure; concerns about system reliability; and lack of clear market signals concerning the location of new generation.

Rate pancaking occurs when energy must move through multiple, separately priced systems to travel from its point of production (the generator) to its ultimate point of delivery and consumption (the load). In the RTO West Geographical Area as currently operated, this happens every day. For example, the output of a generator in Montana may cross the systems of Idaho Power Company, Bonneville Power Administration, and PacifiCorp or Portland General Electric Company before being delivered to its ultimate destination in Portland, Oregon. Power moving from British Columbia to California similarly must cross multiple systems.

In addition to the cumulative financial burden of moving power across multiple systems, there is also an administrative burden. A party that wants to move power through multiple systems must make transmission reservation and scheduling arrangements with the operators of each of those systems.

Although the existing transmission system within the RTO West Geographical Area is "balkanized" from an economic and operational perspective, it is also becoming increasingly strained as the number, volume, and complexity of transactions it must carry have steadily increased. Investment in the transmission system, on which the region's safety and economy depend, has not kept up with demand. New investment is needed. Yet the most economical and beneficial enhancements to the electric infrastructure may not always be within a single company's reach or within a single political boundary.

As we have seen so dramatically in recent California events, having abundant generation available is critical both to well functioning markets and to system stability. Yet needed generation cannot be placed simply anywhere on a transmission system with equally good results. Building generation on a line that is already strained to serve existing resources can make a bad situation worse. It is like putting a major new business on a highway that already suffers bumper-to-bumper traffic jams every rush hour. Without a good mechanism to encourage proper location of new generation, there is the risk that some projects will be built where they do more harm than good to the system as a whole, or that they will miss opportunities to maximize positive impact.

How an RTO Can Help Solve Existing Problems in the RTO West Geographical Area

An RTO by definition must eliminate rate pancaking in the area it encompasses. There are different ways in which system users can be charged for the right to schedule power across an RTO without paying pancaked rates. How RTO West will accomplish this, while at the same time preventing shifts of current cost responsibility among the Filing Utilities, is explained below under "The RTO West Company Rate Pricing Proposal".

RTOs also reduce administrative burdens by providing "one-stop shopping" for transmission customers. An RTO customer has to deal with only one party – the RTO – to arrange all of its transmission services from one end of the RTO's system to the other. All of the information about prices and conditions and available capacity on the RTO system can also be found in one place: the RTO's internet-based information system. Through operation of a single control area, an RTO can foster a unified market for ancillary services and short-term transmission within its region.[1] A single control area will eliminate not only the transactional boundaries between different transmission owners' systems, but will allow for enhanced operational efficiencies as well (for example, by dispatching generators across the system on an integrated basis to meet system-wide regulation requirements). In addition, a single control area operator has the potential to more efficiently address reliability concerns as they arise.

With respect to investment in new transmission facilities, there have long been processes in the West through which transmission owners plan their systems on a coordinated basis. There are in fact numerous jointly owned transmission facilities within the RTO West Geographic Area. An RTO can enhance existing transmission planning and expansion processes in several ways. Chief among these is an RTO's ability (through pricing treatment of congested paths) to provide market signals for needed transmission enhancements (or other means of relieving congestion, such as load reduction or strategic placement of generation resources). An RTO also has planning authority over all of the facilities it controls (as well as the ability to monitor on-going operations) so it will have a clear view of system needs. Where the marketplace cannot or does not respond to price signals, the RTO provides a safety net to address, on an integrated basis, any transmission adequacy problems. The RTO provides a means by which all interested parties can obtain and analyze a comprehensive, consistent, and detailed database of system-wide information about facilities usage, congested paths, and costs associated with congestion.

Through thoughtful market design, RTOs also can help provide price signals about where new generation facilities should be located, so that they relieve, rather than add to, existing congestion or supply problems.

[1] Through its ongoing interregional coordination activities with the California ISO and Desert STAR (the RTO proposed for parts of the Desert Southwest), RTO West is also working to develop opportunities to capture single market efficiencies on a broader scale.

How RTO West Will Address the Particular Problems in the RTO West Geographical Area; Critical Issues

The RTO West Company Rate Pricing Proposal

RTO West will eliminate rate pancaking by employing a "Company Rate" structure. Under Company Rates, the access fee a transmission customer pays will be based on the cost of the facilities through which the relevant load is served. For example, a customer served from the Bonneville Power Administration's facilities will pay the Bonneville Company Rate. A customer's total access fees will be the product of the applicable Company Rate times the amount of the load to be served. With the Company Rate system, the customer will pay a single Company Rate access fee to use the entire RTO West system, no matter where on the RTO West system the power used to serve the load is produced (or imported).[2]

The RTO West Company Rate proposal has been designed to preserve the allocation of system cost responsibility that exists under current transmission tariffs and agreements among the Filing Utilities. By preserving current cost responsibility, the Company Rate structure helps prevent customers of one Filing Utility (with historically lower transmission rates) from experiencing a sudden rate increase or cost shift.

The principle of avoiding cost shifts does, however, create a tension with the concept of eliminating pancaked rates. Pancaked rates are exactly how the cost impacts of one system have been isolated from those of another. To reconcile these two objectives, the Company Rate proposal employs two important tools: (1) a "license plate" access fees system,[3] and (2) transfer payments.

The term "license plate" likens transmission access fees to state-based automobile license fees. With automobile licenses, a resident pays a single fee (to its home state) to obtain the right to drive the licensed car anywhere in the country. Each state decides what it will charge its residents in exchange for issuing a license plate. Similarly, under the RTO West "license plate" system, each load pays a single access fee for use of the entire RTO West system. The fee a load in one location pays may be different from that of a load in another location (based on the historical costs of the transmission facilities from which the load is served). The RTO West "license plate" pricing system will eliminate rate pancaking associated with using RTO West transmission facilities.

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[2] Although transmission customers using the RTO West system to serve load will bear a single load-based access fee for the right to schedule energy deliveries to a given load, if the energy is scheduled across any congested paths, then the transmission customer will need to have pre-existing contract rights to use those paths or will have to buy the necessary rights. Thus, under congested conditions, a transmission customer may end up paying costs for transmission rights in addition to the applicable Company Rate charge. Transmission customers will also bear a share of RTO West's own costs of start-up and operation (in addition to cost recovery for use of transmission facilities).

[3] A "license plate" system contrasts with a single, averaged system-wide rate, which is sometimes referred to as a "postage stamp" rate.

While the Company Rate is in effect, the Filing Utilities will also make transfer payments among themselves. These transfer payments have the effect of "truing up" historical cash flows among the Filing Utilities so that they reflect the payment obligations that existed among the Filing Utilities before RTO West began operations and avoid cost shifts. At the same time, the rights of the Filing Utilities to use each others' systems under their pre-RTO West contracts and tariffs will be translated into rights based on the RTO West congestion model (described in more detail below under "Transmission Rights").

Under the RTO West pricing proposal, the time during which the Company Rate will be in effect (known as the "Company Rate Period") will run through 2011. After that, the Board of Directors of RTO West will have the power to modify the RTO West structure as it sees fit (consistent with FERC's policies on RTO pricing and so long as the transmission owners participating in RTO West still receive full cost recovery for their facilities within the RTO West system).

Although the general structure of the RTO West pricing concepts have been laid out in filings to FERC, there are a number of pricing-related issues that have not, as of the date of this paper, been fully resolved.

RTO West Transmission Rights and General Market Structure

The RTO West proposal contemplates a system of physical rights to schedule on specified paths. The transmission rights will come in three variations: Firm Transmission Rights ("FTRs"), Recallable Transmission Rights ("RTRs") and "Non-Firm Transmission Rights ("NTRs").[4] In its simplest form, an FTR consists of the right to schedule one MegaWatt of energy across a specified path (known as a "flowpath") in a specified direction during a specified hour. Parties who wish to use the RTO West transmission system generally will not be allowed to schedule their transactions without first obtaining the necessary transmission rights.[5]

A system of physical transmission rights means that holders of those rights are actually entitled to schedule deliveries across the paths on which they have rights (in contrast to a system of financial rights, under which a rights holder is protected from the cost impacts of an RTO's actions to clear system congestion). RTO West will determine capacity on its flowpaths and allow scheduling only up to available capacity. Based on the source of the scheduled power and its ultimate destination (the "sink"), RTO West will determine (based on computer modeling of the physical behavior of the RTO West transmission system, known as "Flow Distribution Factors") which flowpaths will carry the energy.

[4] RTRs become available (through RTO West) when those holding FTRs on a particular path elect not to schedule against those on a day-ahead basis. Based on capacity not scheduled and its judgment of capacity needs, RTO West will release RTRs, but the RTRs can be recalled (which deactivates associated scheduling rights) under certain circumstances. NTRs are released according to RTO West's assessments of its likely need to use the associated capacity, and are similar to the non-firm rights that exist in transmission markets today.

[5] The word "generally" qualifies the obligation to obtain transmission rights here because current discussions among the members of the RTO West Congestion Model Content Group include the possibility of allowing some ability to schedule (below specified thresholds) without corresponding transmission rights.

RTO West will be divided up into congestion regions based on historical energy flows on the RTO West system. The lines connecting these regions will be designated as "flowpaths." Flowpaths are the paths across which transmission rights will be required. Flowpaths can be created or combined after RTO West begins commercial operation according to specific criteria. On the whole, the congestion model under development for RTO West is intended to move from an existing system of contract rights (that in many respects often ignores actual system behavior) to one in which commercial obligations and the physics of the transmission system are more closely aligned.

FTRs across RTO West flowpaths will be available to transmission customers through two primary channels: (1) allocations based on load service obligations and pre-existing long-term contract rights, and (2) market purchases of available transmission. The allocation process is described more fully below under "Formation of RTO West." Those who do not have pre-existing long-term contract rights will be able to purchase FTRs in one of two ways: (a) through private purchase transactions from those holding FTRs (a "secondary market"), or (b) through participating in auctions when RTO West releases any FTRs that it has available on its system.

The system of FTR auctions is different from how limited transmission capacity is made available under current FERC policy. The current tariff mechanism to allocate transmission capacity is a cost-based, "first-come, first-served" system. Under RTO West, scarce transmission resources will be allocated to those who value them most – the highest bidders at auction.

This does not mean that the creation of RTO West will suddenly expose all of the Filing Utilities to unlimited cost risk to meet their existing obligations. On the contrary, to the extent Filing Utilities (and any other parties that choose to convert their pre-existing long-term contracts[6]) have already paid for the right to use the RTO West transmission system, they will receive corresponding FTRs. The FTRs should allow them to schedule their transactions as they have in the past without any new costs. Anyone that receives FTRs in exchange for suspending their previous long-term contract rights will also be able to sell their FTRs in the secondary market at those times when they do not need them.

One important point to remember in considering the RTO West system of transmission rights is that nothing in the RTO West proposal contemplates changing the way that wholesale energy buyers and sellers do business with each other. RTO West will not create a central power exchange or any other form of mandated wholesale energy market. Rather, it is expected that RTO West system users will continue to buy and sell energy, whether on a long-term or short-term basis, in private bilateral transactions (or to schedule energy to serve their loads from generation resources they own). What RTO West will change is the manner in which market participants arrange for physical delivery of their energy transactions on the transmission system. The change is toward greater accuracy and economic efficiency.

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[6] Parties who are not RTO West participating transmission owners will be able to choose whether to convert their pre-existing long-term contract rights within the RTO West system. If they elect not to convert, they will be able to continue to receive service under their old contracts. The participating transmission owners obligated to provide service under pre-existing long-term contracts will work through RTO West to continue to provide the contract service for as long as the contract continues.

With respect to ancillary services, the RTO West proposal is designed to encourage the development of external markets wherever possible. As required by FERC policy and Order 2000, RTO West will provide those ancillary services that only the transmission provider can supply (such as scheduling, system control and dispatch service) and will act as provider of last resort to make sure that other FERC-required ancillary services are available to transmission customers that need them.

Since work on the RTO West proposal began in March 2000, the major elements and the details of RTO West's congestion model have been very important to the Filing Utilities and most other stakeholders. There continue to be strongly held and differing viewpoints concerning such matters as: (1) how best to assure liquidity within the FTR markets while providing adequate means to meet existing load service and contractual obligations, (2) how to translate existing long-term transmission rights into FTRs, and (3) how to balance the desire to make flowpaths reflect, as nearly as possible, actual system flows without creating an unmanageable degree of commercial complexity.[7] Many, many of the more detailed aspects of the RTO West congestion model continue to be considered and debated as well.

RTO West Planning and Expansion

RTO West planning and expansion principles are still under discussion as of the date of the paper, but there are some fundamental issues around which there appears to be general consensus. RTO West will have ultimate planning authority with respect to the facilities it controls. RTO West will have clear rights to assure that the transmission capacity that exists within its system at the beginning of its operations is sustained, and that there will be sufficient transmission to reliably serve all of the load that depends on RTO West facilities for access to generation. As mentioned above with respect to RTOs generally, RTO West will maintain and make available to all interested parties comprehensive information about system usage, enhancements, and expansions. RTO West will not have the ability to own transmission tower and wires or generation, but it will have contractual rights with its participating transmission owners sufficient to protect the integrity of the RTO West system as if it were the owner.

[7] The tension between physical accuracy and commercial simplicity arises because to increase physical precision requires a large number of separately scheduled flowpaths. Increasing the number of flowpaths, however, increases commercial complexity because any given transaction will involve more flowpaths and the consequent need for more FTRs. For example, an east-to-west transaction with high-precision modeling might require schedules across 20 flowpaths, while under a simplified model the same transaction might require only three or four. Greater simplicity, however, has the drawback of muting price signals and causing more of the costs of congestion to be shared communally, rather than assigned to the specific parties whose transactions create the congestion.

Formation of RTO West

RTO West will be formed as a non-profit state corporation with the specific mission of operating as a FERC-approved RTO. It will be governed by Articles of Incorporation and Bylaws sufficient to: (1) meet FERC's requirement that RTOs be independent of market participants, and (2) give all stakeholders and other interested parties reasonable opportunities to cause their needs and views to be known and considered. In October 2000, the Filing Utilities submitted to FERC drafts of proposed Articles of Incorporation and Bylaws for RTO West, which FERC found satisfy FERC's independence standards for RTOs.

TOAs with the Filing Utilities and other interested transmission owners will be the means by which RTO West assembles the facilities it operates. RTO West will provide, through its transmission service tariff, access to the entire RTO West transmission system. The charges transmission customers pay under the RTO West tariff will cover payments to the transmission owners for the use of their facilities and for RTO West's own start-up and operating costs. Customers will also bear costs associated with losses, ancillary services they use, and any transmission rights they purchase from RTO West or other parties.

Part of the transition from the current system to RTO West will entail the translation of existing long-term contracts among the Filing Utilities into two components: (1) transfer payments, and (2) FTRs.[8] This translation process will involve suspending certain provisions of existing contracts among each of the Filing Utilities and substituting for those provisions a combination of FTRs and transfer payment obligations. Parties other than Filing Utilities will be given the option to convert their existing contracts into FTRs and transfer payment obligations, but they will not be required to do so.

Filing Utilities' load service obligations will also be assured through initial allocation of necessary FTRs. As load service obligations grow in the future, RTO West will allocate additional FTRs to meet those obligations.

In the filings they have made to date with FERC concerning RTO West, the Filing Utilities have emphasized the importance of adequate arrangements to deal with liability exposure associated with transmission operations, particularly in the context of RTOs. The Filing Utilities submitted a comprehensive proposal for managing liability along with other documents filed with FERC in October 2000, which FERC initially rejected. FERC has since reconsidered its position in part (in an order on rehearing issued July 12, 2001), but liability issues remain unresolved as of the date of this paper.

Another important matter bearing on RTO West is the range of viewpoints within the RTO West region concerning how RTO West benefits will balance with its costs. To the extent RTO West has its own operating and capital expenses, they will be added onto the cost recovery associated with the transmission facilities RTO West operates. This will likely have the effect of increasing

[8] The current RTO West pricing proposal also contemplates that Filing Utilities will make transfer payments to one another based on historical usage of short term transmission service, but there will be no FTRs issued in connection with those short-term payments.

the overall cost for transmission service, viewed in isolation (although preliminary modeling of the RTO West pricing proposal indicates the percentage increase is small).

On the other hand, transmission service costs, as a component of total delivered energy costs, are likely to remain small. Most observers believe that the major economic benefits of an RTO in the Northwest will spring from two sources: (1) positive effects on future infrastructure investment decisions, and (2) increased liquidity and competition within the wholesale generation market (as well as improved market signals concerning generation location). Some stakeholders have strongly expressed their reservations about RTO West until its benefits can be demonstrated. The Filing Utilities are moving forward with plans to complete a rigorous benefit cost analysis to resolve these concerns.